Notice of Allowability	Application No.	Applicant(s)	
	10/706,179	BOU-GHANNAM ET AL.	
	Examiner	Art Unit	
	Cheyne D. Ly	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *March 28, 2007*.

2. ☒ The allowed claim(s) is/are *1,3,4,6,7,9-11,14,16,17,19,20,22 and 24-26*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *June 5, 2007* .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

C. Dinh Ly 6/11/07

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Richard Hinson for Applicant on June 5, 2007.

3. The amendment filed March 28, 2007 has been entered. The instant Examiner's amendment is directed to said entered amendment.

4. The application has been amended as follows:

5. **Cancel** claims 2, 8, 15, 21, and 23.

IN THE CLAIMS

6. **REPLACE** Claim 1 with claim 1 amended by examiner (without underlined and cross marked) set forth below:

1. A method of processing a request for a plurality of Web services comprising the steps of:

receiving a request specifying at least two Web services;

extracting an object pattern from the request;

storing the object pattern from the request in a common memory;

scanning the common memory with at least two watchers, wherein each watcher is assigned to a Web service and a rule for invoking an associated one of the at least two Web services;

detecting that the object pattern matches the rule of one of the at least two watchers, wherein a first watcher having a rule matching the object pattern invokes an associated one of the at least two Web services, wherein the one of the at least two invoked Web services instructs the first watcher to modify the object pattern;

modifying the object pattern by the first watcher according to instructions from the associated one of the at least two Web services;

detecting by a second watcher that the modified object pattern matches the rule assigned to the second watcher;

invoking by the second watcher the other one of the at least two Web services assigned to the second watcher;

detecting a termination criterion by a termination watcher, wherein a rule within the termination watcher matches the pattern object; wherein the termination watcher returns the pattern object back to at least one servlet; and

sending a response to the request by the at least one servlet.

7. Claim 7, **delete** "further comprising the step of sending a response to the request,".

8. **REPLACE** Claim 9 with claim 9 amended by examiner (without underlined and cross marked) set forth below:

9. A system comprising a processor for processing complex requests for Web services; wherein said system comprising:

A Hypertext Transfer Protocol server configured to receive a request for at least two Web services;

At least one servlet configured to extract a pattern object from the request; wherein the pattern object specifies the at least two Web services;

A common memory that temporarily stores the pattern object while the specified at least two Web services being executed;

At least two watchers wherein each watcher is assigned to a Web service and a rule for invoking an associated one of the at least two Web services, wherein:

The at least two watchers scanning the common memory in parallel to determine whether the stored pattern object matches the assigned rule for invoking a Web service associate with each watcher;

a first watcher having a rule matching the object pattern invokes an associated one of the at least two Web services, wherein the one of the at least two invoked Web services instructs the first watcher to modify the object pattern;

the first watcher modifying the object pattern according to instructions from the associated one of the at least two Web services;

detecting by a second watcher that the modified object pattern matches the rule assigned to the second watcher;

the second watcher invoking the other one of the at least two Web services assigned to the second watcher;

a termination watcher detecting a termination criterion wherein a rule within the termination watcher matches the pattern object; wherein the termination watcher returns the pattern object back to the at least one servlet; and

the at least one servlet sending a response to the request.

9. **REPLACE** Claim 14 with claim 14 amended by examiner (without underlined and cross marked) set forth below:

14. A computer readable storage; having stored thereon a computer program having a plurality of code sections executable by a processor for causing the computer to perform the steps of:

receiving a request specifying at least two Web services;

extracting an object pattern from the request;

storing the object pattern from the request in a common memory;

scanning the common memory with at least two watchers, wherein each watcher is assigned to a Web service and a rule for invoking an associated one of the at least two Web services;

detecting that the object pattern matches the rule of one of the at least two watchers, wherein a first watcher having a rule matching the object pattern invokes an associated one of the at least two Web services, wherein the one of the at least two invoked Web services instructs the first watcher to modify the object pattern;

modifying the object pattern by the first watcher according to instructions from the associated one of the at least two Web services;

detecting by a second watcher that the modified object pattern matches the rule assigned to the second watcher;

invoking by the second watcher the other one of the at least two Web services assigned to the second watcher;

detecting a termination criterion by a termination watcher, wherein a rule within the termination watcher matches the pattern object; wherein the termination watcher returns the pattern object back to at least one servlet; and

sending a response to the request by the at least one servlet.

10. Claim 16, line 1, **delete** "machine", **insert therefor** – computer—

11. Claim 17, line 1, **delete** "machine", **insert therefor** – computer—

12. Claim 19, line 1, **delete** "machine", **insert therefor** – computer—

13. Claim 20, line 1, **delete** "machine", **insert therefor** – computer—

14. Claim 20, **delete** "further comprising the machine to perform the step of sending a response to the request,"

15. **REPLACE** Claim 22 with claim 22 amended by examiner (without underlined and cross marked) set forth below:

22. A system for processing a request for a plurality of Web services comprising:

means for receiving a request specifying at least two Web services;

means for extracting an object pattern from the request;

means for storing the object pattern from the request in a common memory;

means for scanning the common memory with at least two watchers, wherein each watcher is assigned to a Web service and a rule for invoking an associated one of the at least two Web services;

means for detecting that the object pattern matches the rule of one of the at least two watchers, wherein a first watcher having a rule matching the object pattern invokes an

associated one of the at least two Web services, wherein the one of the at least two invoked Web services instructs the first watcher to modify the object pattern;

means for modifying the object pattern by the first watcher according to instructions from the associated one of the at least two Web services;

means for detecting by a second watcher that the modified object pattern matches the rule assigned to the second watcher;

means for invoking by the second watcher the other one of the at least two Web services assigned to the second watcher;

means for detecting a termination criterion by a termination watcher, wherein a rule within the termination watcher matches the pattern object; wherein the termination watcher returns the pattern object back to at least one servlet; and

means for sending a response to the request by the at least one servlet.

16. Claim 26, **delete** "further comprising the machine to perform the step of sending a response to the request,"

REASON FOR ALLOWANCE

17. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to teach or suggest the claimed invention individually or in combination wherein the limitation of

"...detecting that the object pattern matches the rule of one of the at least two watchers, wherein a first watcher having a rule matching the object pattern invokes an associated one of the at least two Web services, wherein the one of the at least two invoked Web services instructs the first watcher to modify the object

pattern; modifying the object pattern by the first watcher according to instructions from the associated one of the at least two Web services; detecting by a second watcher that the modified object pattern matches the rule assigned to the second watcher; invoking by the second watcher the other one of the at least two Web services assigned to the second watcher; detecting a termination criterion by a termination watcher, wherein a rule within the termination watcher matches the pattern object; wherein the termination watcher returns the pattern object back to at least one servlet; and sending a response to the request by the at least one servlet..."

as set forth in claim 1, and similarly in independent claims 9, 14, and 22.

18. Dependent claims 3, 4, 6, 7, 10, 11, 16, 17, 19, 20, are 24-26 being further limiting to the independent claim 9, 14, or 22, definite, and enabled by the specification are also allowed.

19. The closest prior art, Wu in view of Dzbor et al., describes a method of processing a request for a plurality of Web services. However, Wu in view of Dzbor et al. does not teach or suggest the limitations cited above as being free of any prior art when read in the claims as a whole.

20. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

21. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

22. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

C. Dune Ly
Patent Examiner
6/6/07